DOCUMENT RESUME

ED 428 444 EA 029 704

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TITLE A "Safe" High School: Prevalence and Consequences of Students' Exposure to Firearms.

PUB DATE 1998-10-00

NOTE 16p.; Paper presented at the Annual Meeting of the Northeastern Educational Research Association (Ellenville, NY, October 28-30, 1998).

PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS *Guns; High Schools; School Safety; *School Security; *Student Attitudes; *Urban Schools

ABSTRACT

This report explores the prevalence of firearms in the lives of high-school students attending a "safe" campus, and the psychological effects this exposure has on these students. The study sample was 569 students enrolled in a large, ethnically diverse, urban high school. Results show that 51 percent of the students reported that they had easy access to firearms. Males were significantly more likely to have access than females. Blacks, Latinos, and whites were more than twice as likely to have access to guns than Asians. Blacks and whites were over three times more likely than Latinos and Asians to have a gun in the home. Students with access to guns were almost four times more likely to have experimented with drugs or alcohol. However, these students were significantly less likely to engage in physical fights and twice as likely to report that they did not feel safe at school. Forty-nine percent of the students reported that they knew someone who had been killed by gunfire. Significant ethnic differences were apparent, with blacks and Latinos twice as likely to have known someone killed by gunfire than whites and Asians. Students who had known someone killed by gunfire usually perceived their opportunities for the future as poor. (RJM)

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Running Head: Exposure to Firearms

A "Safe" High School: Prevalence and Consequences of Student's Exposure to Firearms

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Paper presented at the annual conference of the Northeastern Educational Research Association, Ellenville, New York, October 28-30, 1998. Direct correspondence to Caren Caty at email: Gist6@aol.com

EA 029 704

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Abstract

The primary objective of the present study is to explore the prevalence of firearms in the lives of high school students attending a "safe" campus, and the psychological effects this exposure has on these students. The sample was 569 students enrolled in a large urban high school located in a middle-high SES area of Los Angeles. The mean age was 16.24, SD = 1.14 (range: 14-18). Slightly more than one-half were female (53%). The student population was ehnically diverse: 33% Black; 32% Latino; 28% White; and 8% Asian. Fifty-one percent of the students reported that they had easy access to firearms. Males were significantly more likely to have access (56%) than females (43%). Blacks, Latinos and Whites were slightly more than twice as likely to have access to guns than Asians (53% to 26%). Blacks and Whites were over three times more likely than Latinos and Asians to have a gun in the home (36% to 10%). Students who have access to guns were almost four times more likely to have experimented with drugs or alcohol (79% to 21%). Interestingly, those students who reported having access to firearms were significantly less likely to engage in physical fights (45% to 55%), and twice as likely to report that they did not feel safe at school (25% to 12%). Forty-nine percent of the students reported that they knew someone who had been killed by gunfire. No significant gender differences were reported (49% for males and 51% for females). There was a significant ethnic difference with Blacks and Latinos twice as likely to have known someone killed by gunfire than Whites and Asians (64% to 25%). Students who had known someone killed by gunfire were twice as likely to report that they perceived their opportunities for the future as poor (8% to 4%), and were twice as likely to report that they did not feel safe at school (24% to 12%). Surprisingly, those students who reported knowing someone killed by gunfire were no more likely to have ever received counseling than those who did not report knowing someone killed by gunfire. In light of the pervasive access to guns and the psychological effects of knowing someone killed with a firearm, this study suggests that "safe" high schools are no longer immune to the devastating effects of America's gun culture.

A "Safe" High School: Prevalence and Consequences of Student's Exposure to Firearms

The availability and use of guns plagues America's children. Over the past 50 years more than one million Americans have been killed by firearms in murders, suicides and gun related accidents in this country (http://www.vpc.org). While murder rates in general have gone down in many cities across the U.S. between 1996-1997, the rate of homicides committed by 14-24 year olds has increased, with guns as the weapon used most often (Witkin, 1998). There are currently two trends in crime, one for the mature and one for the young, which are moving in opposite directions, and the rate of homicide committed by teenagers, ages 14-17, has more than doubled over the past decade (Fox, 1996). In the United States, the availability and use of guns continues to play a major role in the lives of adolescents with firearms homicide ranking as the second leading cause of death for all adolescents between the ages of 15-19 (Fingerhut, Ingram, & Feldman, 1992; Singh, Kochanek, & MacDorman, 1996). As of 1994 there were 192 million privately owned firearms in the U.S., 65 million of which were handguns (Cook & Ludwig, 1997). In 1996, handguns were used to murder 2 people in New Zealand, 15 in Japan, 30 in Great Britain, 106 in Canada, 211 in Germany, and 9,390 in the United States (http://www.handguncontrol.org). These numbers are staggering considering the implications for our adolescent population.

The primary objective of the present study is to explore the prevalence of firearms in the lives of high school students attending a "safe" campus with no prior incidence of gun violence, and the psychological effects this exposure to firearms has on these students. As researchers and educators it is important that we remain aware of the dangers our young face as a result of chronic exposure to firearms and the ease to which these weapons are made

available to children. In an attempt to increase awareness of the hazards facing teens with regards to firearms this study will address four major questions. 1) What percentage of high school students in an ethnically diverse high school population have access to guns? 2) What are the demographic variables related to having easy access to firearms?, 3) How many students know someone killed by gunfire?, and lastly 4) How does knowing someone killed by gunfire effect one's future outlook and feelings of safety at school?

There are startling contrasts when considering the adolescent's exposure to firearms based upon gender and race. The U.S. homicide rate for Black males 16-19 is more than four times the homicide rate for White males in this age range (Rand, 1994), whereas the suicide rate for White males is almost two times greater than the rate for Black males (Centers for Disease Control and Prevention [CDC], 1998). From 1985 to 1994 the rate of murders committed by teenagers 14-17 has increased 172% (Fox, 1996), with firearm homicides up 66% for White females, 32% for Black females, 108% for White males, and 137% for Black males during the 1987 to 1991 time period (Bureau of Justice Statistics [BJS], 1994). In 1994, firearm injuries were the leading cause of death for Black males 15-24 (CDC, 1996). Between 1980-1994, suicide rates for teenagers 15-19 increased by 20%; the increase in firearm-related suicide accounted for 96% of the increase, with young white males most at risk (CDC, 1996). Suicide among Black youths, once uncommon, has increased 114% for the 10-19 age range during 1980 to 1995 (CDC, 1998). Kellermann, et al. (1992) reported those living in homes in which guns are kept have a risk of suicide that is five times greater than those living in homes without guns.

Gun violence in America's past afflicted a primarily male population and today males continue to be more prone to firearms exposure than females. Reviewing comparable

homicide statistics available during 1986-1987, results show U S. males between the ages of 15-24 were more likely to be murdered than same age males in 22 other developed countries (Fingerhut & Kleinman, 1990). Along with America's "superpower" status we should notice that our young males are four times more likely to be murdered with a gun than the same age males in Scotland, seven times more likely than those in Canada, twenty one times more likely than those in Germany, and forty times more likely than those in Japan (Richters, 1993). The National Youth Risk Behavior Surveillance Survey (CDC, 1995) suggests that males are more likely than females to engage in risky behavior such as carrying a gun, with results indicating high school males are three times more likely to carry a weapon than females. O'Donnell (1995) reported firearm death rates are approximately six times higher for all males than for females in the 15-19 age range.

While the current study examines student's concerns for safety at school, few previous studies have explored these concerns even though so many students continue to report easy access to firearms. The 1993 national school-based survey of the Youth Risk Behavior Surveillance System sampled students in grades nine through twelve in 50 states during February through May 1993. Findings include 7.9% of students had carried a gun (though not necessarily to school) during the 30 days prior to the survey, and 4.4% of the students missed at least one day of school over the past 30 days because they felt unsafe at school or felt unsafe travelling to or from school (CDC, 1995). In further consideration of the adolescent's risk of firearm exposure, the Harvard School of Public Health conducted a survey of 2,508 students in grades six through twelve during April and May of 1993 and found that 4% said they had taken a gun to school that year, 9% said they had shot at someone, 11% said they had been shot at, 22% said they would feel safer if they had a gun when they were going to be in a

physical fight, 39% knew someone killed or injured by gunfire, 59% said they could get a handgun if they wanted one, and more than a third of the students surveyed said they thought guns made it less likely that they would live to old age (Harris, 1993)

As a generation of young people become more exposed to the dangers of firearms, America's legacy of gun violence has an ever increasing presence in American schools. According to the department of Education (1998), over 6,000 students nationwide were expelled during the 1996-97 school year for bringing guns to their public schools. California, Ohio and Texas were the only states with over 500 such expulsions. Callahan & Rivara (1992) found in their study of 11th grade students in Seattle, 6% of males reported bringing a handgun to school, 47% of males and 22% of females reported easy access to handguns, and 11.4% of males reported owning a handgun.

In recent years gun related violence on school campuses across the country has stunned Americans into disbelief. In a 1990 study done by the Center to Prevent Handgun Violence, information gathered from over 2,500 school violence related news stories recorded in newspapers across the country between September 1986 through September 1990 revealed at least 71 people (65 students and 6 school employees) had been killed with guns at school, 201 were severely wounded, and 242 were held hostage at gunpoint. This study found that schoolchildren ages 14-17 were most at risk for gun violence at school, and 93% of the offenders were males (http://www.handguncontrol.org). Perhaps because of the unexpected nature of this type of violence on school grounds most schools are reporting that they still employ low levels of security measures to prevent violence. According to the National Center for Education Statistics (1998), only 2% of schools reported stringent security measures, while 84% reported a low level of security.

While gun violence claims the lives of many children there are enormous medical and emotional burdens faced by survivors. The estimated cost of health care expenditures for firearm related injuries in the United States for 1995 was $4 billion (Kizer, Vassar, Harry & Layton, 1995). The number of individuals in the 14-24 age group is expected to increase 20% from 1996-2005, with more than 30 million teenagers living in the United States by the year 2006 (Fox, 1996; Witkin, 1998). Since this is the age group most prone to gun violence we can also expect the levels of firearm-related violence to get worse for this population before it gets better. Exposure to the violent finality of death by gunfire can have damaging consequences as described by Garbino, Kostelny, and Dubrow (1992) in their study reporting a pathological adaptation to chronic violence that involved a desensitization to violence which promoted a pursuit of risk taking. Additionally, Gillian (1996) noted careless disregard for self and others among those who felt their hope for the future was bleak.

At this point little is known about the psychological effects of children living in an era of pervasive gun violence. Frederick (1985) noted children who were exposed to different types of traumatic situations such as unexpected gunfire, or death of someone close to them, said that they feared recurrence of the event, had concerns about security, felt anger, and were preoccupied with revenge. A person is more prone to develop Post Traumatic Stress Disorder when exposed to a traumatic experience during adolescents (van der Kolk, 1985), and children living around high levels of gun violence experience death more than others. The psychological effects of these experiences for an adolescent need to be the subject of further research. Additionally, we must continue to assess for student's access to firearms and the consequences inherent in such exposure.

Method

Subjects

A survey was designed and administered to determine the possible mental health needs of this high school population. The sample of 569 participants was taken from each of grade levels 9-12 in a large urban high school located in a middle-high SES area of Los Angeles. Because 75% of the student population travels to the school by bus, participants were from a range of SES from over 100 zip codes in Los Angeles County and the surrounding areas. Teachers volunteered class time for students who wanted to participate in the survey. Twenty-three classes of 9-12 graders participated, including four honors classes and 1 Spanish for native speakers class. Permission for students to participate in the survey was given by parents through the school's governing body. Forty seven percent of the participants were male, 53% female. The mean age was 16.24, SD=1.14 (range 14-18). Four ethnic categories were recorded: 33% Black, 32% Latino, 28% White, and 8% Asian.

Procedures

The principal investigator of the study administered all surveys to students during class time over a two-day period. The principal investigator was the school's clinical counselor and was available to assist with questions or reactions the students may have had during or, after taking the survey. Students were informed in advance that the survey was voluntary and anonymous. Each student was given a plain envelope to place the survey in after completion.

Measure

The Student Survey for Adolescent Risk Assessment [SSARA] (Caty, 1996), contained 36 questions with mostly yes or no answers, and took approximately 15 minutes to complete. Questions were developed to obtain information regarding adolescent's exposure to violence

(including guns and gun violence), abuse and other variables in relation to student's perceived future outlook, feelings of safety at school, and experience with counseling. The survey questions were based on issues that were brought up often by the students in counseling groups at that high school. SSARA was developed by the school's clinical counselor with input from student senate members, teachers, administrators and parents that made up the school's governing body, and the school principal.

Examples of questions on the SSARA included: Could you gain easy access to a gun if you wanted one? Has someone you know been killed by gunfire? Is there a gun in the home where you live? Have you been involved in a physical fight anytime during the past year? Have you experimented with drugs or alcohol? Do you feel safe at school? Have you ever attended a counseling program outside of campus? How do you describe your opportunities for the future: good, fair, poor? These questions were used to explore the prevalence of exposure to guns in the lives of teens and to identify variables that were highly correlated with this exposure.

Results

Frequency counts revealed significant levels of exposure to guns in the lives of teens. Fifty-one percent of the students reported that they had easy access to guns. Males were significantly more likely to have access (56%) than females (43%), $\chi 2 = 16.45$, $p < .001$. Blacks, Latinos and Whites were more than twice as likely than Asians to have easy access to guns (53% to 26%, $\chi 2$ (3) = 21.04, $p < .001$, Phi Cramer's V = .191, $p < .001$), while Blacks and Whites were over three times more likely than Latinos and Asians to have a gun in the home (36% to 10%, $\chi 2 = 42.96$, $p < .001$, Phi Cramer's V = .260, $p < .001$). Students who have access to guns were almost four times more likely to have experimented with drugs or alcohol

(79% to 21%, $\chi^2 = 36.56$, $p < .001$). Interestingly, those students who reported that they had access to firearms were significantly less likely to report engaging in physical fights (45% to 55%, $\chi^2 = 26.54$, $p < .001$), and twice as likely to report that they did not feel safe at school (25% to 12%, $\chi^2 = 14.18$, $p < .001$).

Forty-nine percent of the students reported that they knew someone who had been killed by gunfire. No significant gender differences were reported for students who knew someone killed by gunfire (49% for males and 51% for females, $\chi^2 = 1.344$, $p = .246$). There was a significant ethnic difference, Phi Cramer's V = .423, $p < .001$. Blacks and Latinos were twice as likely to have known someone killed by gunfire than Whites and Asians (64% to 25%, $\chi^2 = 16.45$, $p < .001$). Students who had known someone killed by gunfire were twice as likely to report that they perceived their opportunities for the future as poor (8% to 4%, $\chi^2 = 12.24$, $p < .001$) and were twice as likely to report that they did not feel safe at school (24% to 12%, $\chi^2 = 13.76$, $p < .001$). In addition, students who reported having access to guns where also more likely to have known someone killed by gunfire than those reporting no access (64% to 36%, $\chi^2 = 40.69$, $p < .001$). Surprisingly, those students who reported knowing someone killed by gunfire were no more likely to have ever received counseling than those who did not report knowing someone who was killed by gunfire, ($\chi^2 = .728$, $p = .393$).

Discussion

Findings are consistent with previous research indicating males have a greater risk of exposure to guns than females, with Black males most at risk. Teens who admitted to drug or alcohol experimentation were significantly more likely to have access to guns, however, teens with access to guns were not necessarily drug or alcohol users. These findings suggest that an adolescent's exposure to guns may not be determined by an affiliation with the drug culture.

Adolescents who knew someone killed by gunfire were two times more likely to have a poor outlook toward the future than those who did not. In addition, one of the key findings this study examined that other studies did not is that teens who knew someone killed by gunfire also had a very low rate of ever having received counseling.

In this study a significant finding, also reported in previous research, showed that students who know someone killed by gunfire are less likely to feel safe at school. However, this study reveals another important finding, not reported on elsewhere, which is that students who report having a gun in the home are less likely to feel safe at school. When considering ethnicity data in the current study, Asians had significantly less access to guns than Blacks, Latinos and Whites. Blacks and Latinos were more likely to know someone killed by gunfire than Asians and Whites, however, Blacks and Whites were more likely to report having a gun in the home than Latinos and Asians. According to the literature, Black adolescent males are at higher risk for gun-related homicides, whereas White adolescent males are at higher risk for gun-related suicides, and these risks increase with easy access to guns and guns kept in the home.

Perhaps the most startling significant findings not previously reported in the literature were the discoveries that teens who have easy access to guns are less likely to get into physical fights and teens who know someone killed by gunfire have never received counseling to deal with grief reactions and, or, potential PTSD symptoms. In light of the pervasive access to guns within the adolescent population, and the consequences that come with the easy availability of these weapons, this study suggests that "safe" high schools are no longer immune to the devastating effect of the American gun culture.

Limitations

This study raises more questions than it answers. A revision of the measure (SSARA) would be necessary to pick up on any cultural differences that may have an effect on a teenager's access to guns and the related consequences. Research also needs to focus on the effects exposure to gun violence has on the social, emotional and cognitive functioning of the adolescent.

Implications

In a society where teen gun violence is becoming increasingly common place, implications from this study suggests the majority of the teen population is at risk for sustaining, and, or inflicting firearm injuries, as well as knowing someone killed by gun violence. With the adolescent age group firearm homicide and suicide increase with the availability of handguns. Although it is a federal crime for anyone under 21 to possess a handgun, our society seems to have difficulty keeping guns out of the hands of children. It is evident that psychologists and educators need to work more closely on developing prevention strategies, which at the very least include school-based mental health care and counseling for a highly at risk adolescent population.

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